[SYSTEM AND METHOD FOR ANALYZING A THIN BED FORMATION]

Abstract

A system and method is disclosed for determining a physical characteristic or property associated with each of a plurality of layers of laminated formation traversed by a wellbore, wherein the laminated formation includes thin beds. The method includes providing one or more high resolution logs of a formation property for the laminated formation. From this log, the bed boundaries are detected and more particularly, the individual beds disposed between the boundaries. Then, the facies for each of the plurality of the beds detected is identified, using one or more high resolution logs of the laminated formation. Each of the identified facies is then defined. This includes importing volumetric descriptions for each of the facies and assigning one of the volumetric descriptions to each of a plurality of the beds detected, wherein each of the volumetric descriptions assigned to a bed is derived from a bed having the same facies. One or more squared logs for formation property is then generated by using the imported volumetric descriptions of the facies for plurality to generate a value

of the formation property for each of the beds. This squared log is then convolved to generate a reconstructed log. The reconstructed log is compared with a low resolution log of the formation property for laminated formation. By adjusting the values of the squared log the difference between the reconstructed log and the squared log may be minimized. In this way, and by repeating the adjusting compared steps, and adjusted squared log may be suggested as an optimized squared log of the formation property. The optimized squared logs may then be the subject of a volumetric analyses to generate an output medium having the square log and the volumetric analyses thereon.